II. Remarks

A. Substance Of Interview

In accordance with the provisions of 37 CFR 1.133, Applicants herein make of record the substance of the interview conducted on October 17, 2007, between Applicants' attorneys, Clifford M. Davidson and Oleg Ioselevich, and Examiner David H. Kruse.

During the interview, claims 5 to 12 of the present application and U.S. Patent No. 6,417,428 to Thomashow et al. were discussed in view of the rejections made in the Office Action mailed on June 26, 2007.

In particular, it was submitted that it is Applicants' position that Applicants have demonstrated (e.g., in Example 5, and experimental results submitted on August 16, 2006) that operably linking DNA, as recited in the present claims, with rd29A promoter (a stress responsive promoter) provides unexpected results (i.e., a plant with improved stress tolerance that is free of dwarfing), something that is not taught or suggested by the Thomashow patent.

During the interview, the Examiner acknowledged Applicants' position that Thomashow patent does not actually anticipate the transgenic plant as recited in the independent claims (i.e., a transgenic plant transformed with a DNA operably linked down a stress responsive promoter comprising a DRE region as recited in the present claims, the transgenic plant with improved stress tolerance that is free of dwarfing), and that the rejection based on obviousness could be overcome, e.g., via unexpected results. In this regard, the Examiner's attention was directed to the data mentioned above (i.e., data from the testing of DREB1A, DREB1B and DREB1C gene operably linked to the rd29A promoter).

The Examiner suggested that Applicants provide some basis (e.g., structural) that would lead one skilled in the art to understand that the remaining stress responsive promoters recited in the present claims (i.e., rd17 gene promoter, cor6.6 gene promoter, corl5a gene promoter, and kinl gene promoter) would be expected to possess similar properties to those demonstrated for rd29A.

Applicants thanks the Examiner for agreeing to the telephone interview and the Examiner's suggestion, and respectfully request that the substance of interview be made of record.

B. Status of the claims

Claims 5 to 12 have been amended without prejudice. Support for the amendments can be found, e.g., on page 3, second full paragraph after subtitle OBJECTS AND SUMMARY OF THE INVENTION, and in original claims 9-12. Applicants submit that the amendments are not made in view of the prior art and is done without prejudice to the scope of coverage of the present case or the Applicant's ability to file a broader claim in a further continuation application.

Claims 5-12 are currently pending.

Applicants submit that no new matter has been added by virtue of this amendment.

C. 35 U.S.C. §102 Rejection

In the Office Action, claims 5, 7, 9, and 11 were rejected under 35 U.S.C. § 102(e) over U.S. Patent No. 6,417,428 to Thomashow et al.

In response, Applicants submit that independent claims 5 and 7 have been amended without prejudice to recite in part that the transgenic plant "exhibits improved tolerance to dehydration, low temperature or salt, as compared to a wild type plant, **and** is free from dwarfing." (emphasis added).

Applicants further submit that the Thomashow patent does not teach a transgenic plant transformed with a DNA operably linked to a stress responsive promoter, wherein "said transgenic plant exhibits improved tolerance to dehydration, low temperature or salt, as compared to a wild type plant, and is free from dwarfing" as recited in independent claims 5 and 7.

Accordingly, Applicants respectfully request withdrawal of the anticipation rejection.

D. 35 U.S.C. §103 Rejection

In the Office Action, claims 6, 8, 10, and 12 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 6,417,428 to Thomashow et al.

Independent claims 6 and 8 have been amended without prejudice to recite in part a transgenic plant transformed with a DNA operably linked down a stress responsive promoter comprising a DRE region(s), "said stress responsive promoter selected from the group consisting of rd29A gene promoter, rd17 gene promoter, cor6.6 gene promoter, corl5a gene promoter, and kinl gene promoter; wherein said transgenic plant exhibits improved tolerance to dehydration, low temperature or salt, as compared to a wild type plant, and is free from dwarfing."

Applicants respectfully submit that operably linking DNA, as recited in the present claims, with rd29A promoter (a stress responsive promoter) provides unexpected results (i.e., a plant with improved stress tolerance that is free of dwarfing). See e.g., Example 5 of the specification as filed and experimental results submitted on August 16, 2006.

Applicants further submit that one skilled in the art, would expect the rest of the specific stress responsive promoters recited in claim 1 (i.e., rd17 gene promoter, cor6.6 gene promoter, corl5a gene promoter, and kinl gene promoter) to provide similar results, at the very least, because rd29A and the rest of the specific stress responsive promoters recited in claim 1 (i.e., rd17 gene promoter, cor6.6 gene promoter, corl5a gene promoter, and kinl gene promoter) all have DRE regions containing the sequence of "A/GCCGACNT," the sequence that has a high affinity with DREB1 type protein.

In support of this position, the Examiner's attention is directed to the attached Appendix A, which contains, a table comparing DRE core sequences of the stress-responsive promoters recited in the present claims and DRE core sequence of a constitutive promoter recited in the Thomashow patent (i.e., rd29b promoter); and to Table 2 on pages 990 and 991 of the attached Appendix B, where further information on the DRE core sequences, e.g., of rd29A promoter and cor15a promoter is provided. The data in Appendix A shows, e.g., that all of the stress responsive promoters recited in the present claims have DRE regions containing the sequence of "A/GCCGACNT," whereas the constitutive promoter recited in the Thomashow patent (i.e., rd29 promoter) does not.

With regard to the binding affinity of DREB1 type proteins (i.e., DREB1A, 1B, and 1C), Applicants direct the Examiner's attention to Appendix B, which contains information about the binding affinity of these proteins to different DRE, and, specifically states that DREB1A protein binds more efficiently to DRE comprising "A/GCCGACNT," rather than to "A/GCCGACNA/G/C". See e.g., Summary, page 988, and Fig. 4 and 5. Applicants respectfully note that, although experiments described in Appendix B were conducted with DREB1A, the same binding affinity can be expected with DREB1B and DREB1C, both of which have high sequence homology with DREB1A. See, e.g., Appendix C, which contains Abstract of "Arabidopsis transcriptional activators CBF1, CBF2, and CBF3 have matching functional activities" by Gilmore et al., Plant Mol. Biol. 2004 Mar; 54(5):767-81.

Applicants further note that, a constitutive promoter described in the Thomashow patent (i.e., rd29B promoter) operably linked to the DNA as recited in the present claims does not have the same DRE sequences as the stress responsive promoters recited in the present claims (See e.g., Appendix A), and that the binding affinities of of DREB1 type proteins (i.e., DREB1A, 1B, and 1C) to DRE regions comprising "A/GCCGACNT" (i.e., in the stress-responsive promoters recited in the present claims) would not be same as the binding affinities of these proteins to rd29B promoter. See e.g., Appendix B.

For the foregoing reasons, Applicants submit that one skilled in the art, would expect that the specific stress responsive promoters recited in the present claim will provide similar results (i.e., results provided by rd29A- a plant with improved stress tolerance that is free of dwarfing), when operably linked to a DNA as recited in the present claims, at the very least, because all of

these promoters have DRE regions containing the sequence of "A/GCCGACNT," the sequence that has a high affinity with DREB1 type protein. Applicants further submit that this is something that is not taught or suggested by the Thomashow patent, and, therefore, is unexpected.

Accordingly, Applicants submit that the Thomashow patent does not teach or suggest a transgenic plant transformed with a DNA operably linked down a stress responsive promoter comprising a DRE region(s), "said stress responsive promoter selected from the group consisting of rd29A gene promoter, rd17 gene promoter, cor6.6 gene promoter, corl5a gene promoter, and kinl gene promoter; said transgenic plant exhibits improved tolerance to dehydration, low temperature or salt, as compared to a wild type plant, and is free from dwarfing" as recited in amended independent claims 6 and 8, and request withdrawal of the obviousness rejection.

III. Conclusion

Reconsideration of the present application, as amended, is requested. If, upon review, the Examiner determines that the application is not in condition for allowance, Applicants respectfully request the Examiner to contact the undersigned for a telephone interview before an Office Action is issued in the application. A favorable action on the merits is earnestly solicited.

Respectfully Submitted,
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